

Arizona Department of Environmental Quality

Workgroup Charter: Recycled Water Infrastructure and Technology

Value Proposition:

ADEQ is undergoing a multiphase restructure and revision of its recycled water use rules primarily because augmenting sustainable water supplies is becoming increasingly important in Arizona's arid environment. ADEQ sees these rule revisions as a positive means to further enhance Arizona's unique environment, maintain its national leadership in the water reuse field, and support environmentally responsible economic growth.

Specifically under this Charter, ADEQ requests this workgroup to provide technical recommendations that ensure that recycled water infrastructure and water treatment are appropriately regulated to protect human health and the environment given current technology. ADEQ also seeks policy and rule recommendations to ensure safe direct potable reuse.

In implementing its mission to protect and enhance public health and the environment, ADEQ strives for radical simplicity, nationally recognized technical and operational excellence, and balanced, leading-edge environmental protection. Please allow this vision to guide the workgroup's recommendations developed under this Charter.

Charter Member Structure and Operation:

Member Structure. The workgroup should have between 6 and 12 members, including the chair. The chair, with input from workgroup members, should name a co-chair. The chair and the ADEQ Water Quality Division Director shall mutually agree on the number, designation, mission, scope, and membership of this workgroup and any changes. Table 1 below shows the initial member list.

Table 1 Workgroup Member List (invited)

Name	Affiliation	Role(s)
Tim Thomure (Chair)	Director of Tucson Water	Public Utility Practitioner
Jim Lozier	CH2M	Reverse Osmosis and Residuals
Rob McCandless	Brown and Caldwell	Membranes and Residuals
Keel Robinson	Xylem, Inc	Advanced Oxidation
Andrew Gilmore	Carollo Engineers	Secondary Wastewater Treatment
Ben Lee	Water Works Engineers	Disinfection
Zaid Chowdhury	Garver	Stabilization and Corrosion Control
George Maseeh	Carollo Engineers	Storage and Process Monitoring
Art Nunez	City of Scottsdale	Operations
John Calkins	EPCOR	Private Utility Practitioner
Lisa Snyders	The Coombs-Hopkins Co.	Equipment Vendor
Travis Taylor	ADEQ	Regulatory Support

External Review or Consultation. ADEQ anticipates that an external review group will be assembled at the choice of the chair, and that the chair shall ensure that any review is conducted so that workgroup deadlines will be met.

Changes to Workgroup Membership. If either the ADEQ Water Quality Director or the chair are concerned about the commitment, behavior, or performance of a workgroup member, the two should consult to determine appropriate action, which may include replacement of the member.

Withdrawal from Workgroup. A member may withdraw from the workgroup at any time.

Good Faith Commitment. ADEQ recognizes and appreciates that workgroup members are experts in their field and are volunteering their valuable time. It is expected that workgroup members will participate in good faith throughout the process.

Decisions/Consensus. Ideally, the workgroup will be able to operate on a consensus basis. If a consensus cannot be reached, in order to move forward, decision will be by a quorum of 50% + 1 of the members (which may include telephonic attendance).

For the sake of the record and to make certain that ADEQ fully understands all sides of the issue, the chair will ensure that the dissenting voters provide a written explanation of the reasons for disagreement. These explanations will be included in the final deliverable of the workgroup.

Internal Review. A draft of the deliverable will be provided to all workgroup members for review and comment before the deliverable becomes final.

Records. Members shall keep record of sources referenced in discussions. This is to ensure that ADEQ can confidently draft the preamble to the rule and defend it should the need arise. Minutes for all meetings shall be kept. The chair will consult with ADEQ, on a meeting by meeting basis if needed, to determine whether this responsibility will be performed by an ADEQ staff person or a member of the workgroup or other person assigned by the chair. ADEQ will make minutes and agendas publicly available on its website.

Meeting Number and Frequency. The chair and workgroup members will decide the meeting number and frequency required to complete the deliverable within the assigned timeframe.

Meeting Locations. ADEQ can provide space in its own facilities for meetings in Phoenix or Tucson, as needed. If the workgroup meets at another location, meeting arrangements and teleconference tools are their responsibility.

Funding. ADEQ is grateful for the financial support that WateReuse Arizona has dedicated for this purpose.

Member Responsibilities:

Workgroup Member Responsibilities. Members should make every effort to attend all meetings in person or electronically. Members represent their affiliations and bring their special expertise to the table. Full participation is needed to ensure all affiliations and expertise are represented, all viewpoints are voiced, and decisions are reached by consensus to the maximum extent possible. This will allow ADEQ to confidently proceed in developing a science-based rule revision that is fair, effective, defensible, and beneficial to the citizens of Arizona.

Workgroup Chair Member - Responsibilities. The chair should schedule meetings to ensure that he or she can attend and conduct the meetings. Housekeeping best meeting practices to keep in mind include:

- Establishing a workgroup timeline;
- Take roll for each meeting;
- Prepare and distribute meeting agendas (please consult with ADEQ as it may be able to provide support for these responsibilities);
- Moving the discussion forward to keep the agenda on time;
- Ensuring that the workgroup remains productive;
- Ensuring that all sides of an issue are explored, including hidden or unpopular aspects;
- Encourage participation;
- Assist the workgroup in reaching consensus and articulating issues where consensus is not possible;
- Assist workgroup members in preparing the deliverable; and
- Ensure that workgroup deadlines are met and the final report is delivered to ADEQ on schedule.

Deliverable:

ADEQ anticipates a sectioned report that answers the Project Scope questions below and provides recommendations as appropriate, including a list of documents and references upon which the answers and recommendations are based. A prior similar report will be provided to the chair as a guideline for preparing the deliverable.

Timeframe:

ADEQ expects the workgroup to have its first meeting by May 1, 2017, and to deliver a finalized report to ADEQ by October 31, 2017.

Project Scope:

1. Pipeline Conveyances:

Review current technical standards for pipeline conveyances found in AAC R18-9-602(D) through (G) and recommend any needed changes:

- a. Do additional technical requirements or criteria need to be added and, if so, what should they encompass?
- b. How will the recommendations resolve issues?

2. Maintaining Water Quality throughout Distribution System:

During the stakeholder listening sessions, ADEQ received comments regarding maintenance of water quality throughout the distribution system. Comments fell on both sides of the issue. Some commenters suggested that ADEQ keep the rule as is, which does not explicitly specify maintenance of a disinfection residual in the distribution system. Other commenters recommended that ADEQ add a disinfection requirement to the rule (AAC, Title 18, Chapter 9, Article 6).

- a. Should the rule address or not address disinfection criteria for the distribution system?
- b. If yes, what criteria are recommended and why?
- c. In either case, explain the rationale of the working group for their determination.

3. Class A+ and A Treatment Technology Requirements:

Review the technology requirements for treatment of Class A+ and A reclaimed water in AAC R18-11-303(A) and 304(A) and recommend any needed changes:

- a. Are the requirements for filtration sufficient?
- b. Should alternatives for filtration be allowed?
- c. Should alternatives for filtration be explicitly specified in rule?

4. Potable Reuse Recommendations:

ADEQ intends to modify the prohibition against potable reuse for human consumption in AAC R18-9-704(G)(2)(a) so that reclaimed water may not be distributed for human consumption except as otherwise allowed by ADEQ's recycled water rules. For example, a permitted advanced water treatment facility, which treats and purifies reclaimed water, produces potable water that may be distributed for human consumption and is no longer considered reclaimed water or subject to further reclaimed water regulation.

What are the committee's recommendations on developing rules and guidance to ensure safe potable reuse?

As a starting point in these discussions, please provide implementation recommendations for ADEQ's intended proposed interim permitting criteria. For example, what are the workgroup's recommended components and expectations for each? The interim criteria include the following:

- a. Source water characterization, including quantity, quality, and variability of source flows;
- b. Source water protection (e.g. pre-treatment programs)
- c. Description of and results from a pilot water treatment system for the facility;
- d. Implementation of a pilot water treatment train at an appropriate scale of operation;
- e. Technologies, processes, and methodologies to be employed for microbial control;
- f. Logarithmic reduction targets for microbial control;
- g. Identification and description of technologies, processes, and methodologies for chemical control;
- h. Plan of monitoring for public health protection;
- i. Commissioning and startup plan, including preoperational and startup testing and monitoring, expected time-frame for meeting full operational performance, and any other special startup condition that may merit consideration in the individual permit;
- j. Operation and maintenance plan including corrective actions for out-of-range monitoring results and contingencies for non-compliant water;
- k. Operator training plan; and
- l. Documentation of technical, financial, and management capability.

As indicated above, in order to assist ADEQ in preparing the preamble to the eventual rule specifying DPR criteria, the workgroup will maintain a list of references tied to the recommended criteria (the SCAPR final report, etc.).

(The workgroup should also be aware of additional existing reuse permitting factors in rule at A.A.C. R18-11-309(C) that may be relevant).